Page 9

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=> d his ful
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FILE 'HCAPLUS' ENTERED AT 16:36:52 ON 24 MAR 2004
                              E LING LEONA E/AU
                         27 SEA ABB=ON ("LING LEONA"/AU OR "LING LEONA E"/AU OR "LING
L1
                               LEONA EVA"/AU)
                               E SANICOLA NADEL MICHELE/AU
                         32 SEA ABB=ON ("SANICOLA MICHELE"/AU OR "SANICOLA NADEL MICHELE"/
L2
                               AU OR "SANICOLA NADEL MICHELLE"/AU OR "SANICOLA NADELE
                               MICHELE"/AU)
                           1 SEA ABB=ON L1 AND L2
L3
                               SELECT RN L3 1-1
         FILE 'REGISTRY' ENTERED AT 16:37:54 ON 24 MAR 2004
                                                                                                                                                          earch (axxaola)
                         56 SEA ABB=ON (106096-93-9/BI OR 127464-60-2/BI OR 14265-44-2/BI
T.4
                               OR 186270-49-5/BI OR 194368-66-6/BI OR 383440-12-8/BI OR
                               383440-13-9/BI OR 383440-14-0/BI OR 383440-15-1/BI OR 383440-16
                               -2/BI OR 383440-17-3/BI OR 383440-18-4/BI OR 383440-19-5/BI OR
                               383440-20-8/BI OR 383440-21-9/BI OR 383440-22-0/BI OR 383440-23
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                               383440-27-5/BI OR 383440-28-6/BI OR 383440-29-7/BI OR 383440-30
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                               9001-78-9/BI)
                           O SEA ABB=ON L3 AND L4
L5
          FILE 'HCAPLUS' ENTERED AT 16:38:11 ON 24 MAR 2004
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1.6
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L7
                        419 SEA ABB=ON L7 AND (46.150.1 AND 46.150.18)/RID
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L9
                           1 SEA ABB=ON
                                                      THIONAPHTHALENE/CN
L10
L11
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L12
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L13
                                                     C31 H30 CL N3 92 S/MF 364590-54-5 Regnested compd. - see attached display
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T.14
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L15
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1.16
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L17
         4 SEA ABB=ON L19 AND ?HEDGEHOG?

4 SEA ABB=ON L19 AND (?POLYPEPTID? OR ?AGONIST?) 4 hits from CAPlus
for compa, plus first ferme—cits are extracted

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT

16:54:43 ON 24 MAR 2004

0 SEA ABB=ON L20 () hits from other d.b.'s—may not have

Registry numbers available for

Searched by:

Searc
                                                     L17 AND (?ANGIOGENESIS? OR ?NEOVASCUL?)
L18
L19
L20
 L21
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Searched by Mary Jane Ruhl x 22524

Display of requested compound

Yaen 09/883848

24/03/2004

=> d 116 YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y

L16 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN **364590-54-5** REGISTRY

CN Benzo[b]thiophene-2-carboxamide, 3-chloro-N-[(4'-cyano-6-methoxy[1,1'-biphenyl]-3-yl)methyl]-N-[4-(methylamino)cyclohexyl]- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Hh-Ag 1.2

FS 3D CONCORD

MF C31 H30 C1 N3 O2 S

CI COM

SR CA

LC STN Files: CA, CAPLUS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

ED Entered STN: 25 Oct 2001

=> d que stat 120

OTHER SOURCE(S):

GI

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1 SEA FILE=REGISTRY ABB=ON 364590-54-5
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L17
             4 SEA FILE=HCAPLUS ABB=ON L17 AND ?HEDGEHOG?
L19
             4 SEA FILE=HCAPLUS ABB=ON L19 AND (?POLYPEPTID? OR ?AGONIST?)
L20
=> d ibib abs hitstr 120 1-4
L20 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:570651 HCAPLUS
                        139:133461
DOCUMENT NUMBER:
                        Preparation of substituted benzothiophenes as
TITLE:
                        regulators of cell proliferation
                        Baxter, Anthony David; Boyd, Edward Andrew;
INVENTOR(S):
                        Frank-Kamenetsky, Maria; Guicherit, Oivin; Porter,
                        Jeffery; Price, Stephen; Rubin, Lee; Stibbard, John
                        Harry Alexander
                        Curis, Inc., USA
PATENT ASSIGNEE(S):
                        U.S. Pat. Appl. Publ., 137 pp., Cont.-in-part of U.S.
SOURCE:
                        Ser. No. 964,276.
                        CODEN: USXXCO
DOCUMENT TYPE:
                        Patent
                        English
LANGUAGE:
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
                                        APPLICATION NO. DATE
                     KIND DATE
     PATENT NO.
                          _____
                                         _____
                     ____
                           20030724
                                        US 2002-245844
                                                          20020917
     US 2003139457
                      A1
                           20040127
                                        US 2000-724492
                                                          20001128
     US 6683108
                      B1
                                        WO 2001-US10296 20010330
                           20011011
     WO 2001074344
                      A2
                    A3
                           20020523
     WO 2001074344
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                         US 2001-964276 20010926
                     A1 20021226
     US 2002198236
                      B2
                           20040127
     US 6683192
                                       US 2000-193279P P 20000330
PRIORITY APPLN. INFO .:
                                       US 2000-724492 A2 20001128
                                       WO 2001-US10296 A2 20010330
                                       US 2001-964276 A2 20010926
                                       US 2000-724955 A 20001128
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MARPAT 139:133461

Title compds. I [Ar = (un)substituted (hetero)aryl; X = CO, CS, SO2, SO, etc.; Y = absent for each occurrence; Z = absent, (un)substituted aryl, carbocycle, hetercycle, heteroaryl, etc.; M = independently for each occurrence (un)substituted methylene, etc.; Cy = (un)substituted (hetero)aryl, heterocycle, cycloalkyl, polycyclic group; Cy' = 3-chlorobenzo[b]thiophen-2-yl, etc.] are prepared For instance, (4-aminocyclohexyl)carbamic acid tert-Bu ester (preparation given) is condensed with 3-(4-cyanophenyl)-4-methoxybenzaldehyde ((MeO)3CH, NaBH(OAc)3) and the resulting amine acylated with 3-chlorobenzo[b]thiophene-2-carbonyl chloride and finally deprotected to give II as the HCl salt. Example compds. were shown to be hedgehog agonists. I are used to modulate proliferation or differentiation in a cell or tissue.

IT 364590-54-5P

CN

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of substituted benzothiophenes as regulators of cell proliferation)

RN 364590-54-5 HCAPLUS

Benzo[b]thiophene-2-carboxamide, 3-chloro-N-[(4'-cyano-6-methoxy[1,1'-biphenyl]-3-yl)methyl]-N-[4-(methylamino)cyclohexyl]- (9CI) (CA INDEX NAME)

L20 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2003:93513 HCAPLUS

DOCUMENT NUMBER:

139:301950

TITLE:

Small-molecule modulators of Hedgehog

signaling: identification and characterization of

Smoothened agonists and antagonists

AUTHOR(S):

Frank-Kamenetsky, Maria; Zhang, Xiaoyan M.; Bottega, Steve; Guicherit, Oivin; Wichterle, Hynek; Dudek, Henryk; Bumcrot, David; Wang, Frank Y.; Jones, Simon;

Shulok, Janine; Rubin, Lee L.; Porter, Jeffery A.

CORPORATE SOURCE:

Curis, Inc., Cambridge, MA, 02138, USA

SOURCE:

Journal of Biology (London, United Kingdom) (2002),

1(2), No pp. given

CODEN: JBOIAW; ISSN: 1475-4924 URL: http://jbiol.com/content/1/2/10

BioMed Central Ltd.

PUBLISHER: DOCUMENT TYPE:

Journal; (online computer file)

LANGUAGE:

English

The Hedgehog (Hh) signaling pathway is vital to animal development as it mediates the differentiation of multiple cell types during embryogenesis. In adults, Hh signaling can be activated to facilitate tissue maintenance and repair. Moreover, stimulation of the Hh pathway has shown therapeutic efficacy in models of neuropathy. The underlying mechanisms of Hh signal transduction remain obscure, however: little is known about the communication between the pathway suppressor Patched (Ptc), a multipass transmembrane protein that directly binds Hh, and the pathway activator Smoothened (Smo), a protein that is related to G-protein-coupled receptors and is capable of constitutive activation in the absence of Ptc. We have identified and characterized a synthetic non-peptidyl small mol., Hh-Ag, that acts as an agonist of the Hh pathway. This Hh agonist promotes cell-type-specific proliferation and concentration-dependent differentiation in vitro, while in utero it rescues aspects of the Hh-signaling defect in Sonic hedgehog-null, but not Smo-null, mouse embryos. Biochem. studies with Hh-Ag, the Hh-signaling antagonist cyclopamine, and a novel Hh-signaling inhibitor Cur61414, reveal that the action of all these compds. is independent of Hh-protein ligand and of the Hh receptor Ptc, as each binds directly to Smo. Thus, Smo can have its activity modulated directly by synthetic small mols. These studies raise the possibility that Hh signaling may be regulated by endogenous small mols. in vivo and provide potent compds. with which to test the therapeutic value of activating the Hh-signaling pathway in the treatment of traumatic and chronic degenerative conditions.

IT 364590-54-5, Hh-Ag 1.2

RL: BSU (Biological study, unclassified); DMA (Drug mechanism of action);

PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(agonist; identification and characterization of Smoothened

agonists and antagonists as small-mol. modulators of

Hedgehog signaling)

RN 364590-54-5 HCAPLUS

CN Benzo[b]thiophene-2-carboxamide, 3-chloro-N-[(4'-cyano-6-methoxy[1,1'-biphenyl]-3-yl)methyl]-N-[4-(methylamino)cyclohexyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2002:978471 HCAPLUS 138:39182

DOCUMENT NUMBER: TITLE:

Preparation of substituted benzothiophene derivatives

as hedgehog agonists and

regulators of cell proliferation and differentiation
INVENTOR(S):
Baxter, Anthony David; Boyd, Edward Andrew; Guicherit,
Oivin M.; Porter, Jeffery; Price, Stephen; Rubin, Lee;

Stibbard, John Harry Alexander

PATENT ASSIGNEE(S):

SOURCE:

Curis, Inc., UK

U.S. Pat. Appl. Publ., 130 pp., Cont.-in-part of U.S.

Ser. No. 724,492. CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO. DA	DATE					
US 2002198236	A1	20021226	US 2001-964276 20	20010926					
US 6683192	B2	20040127							
US 6683108	В1	20040127	US 2000-724492 20	20001128					
US 2003139457	A1	20030724	US 2002-245844 20	20020917					
WO 2003027234	<b>A</b> 2	20030403	WO 2002-US29522 20	20020918					
WO 2003027234	A3	20031218							
WO 2003027234	C2	20040219							
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LS, LT,	LU, LV,	MA, MD, M	G, MK, MN, MW, MX, MZ, N	NO, NZ, OM, PH,					
PL, PT,	RO, RU,	SD, SE, S	G, SI, SK, SL, TJ, TM, T	IN, TR, TT, TZ,					
UA. UG.	US. UZ.	. VN. YU. Z	A, ZM, ZW, AM, AZ, BY, F	KG, KZ, MD, RU,					

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TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO::

US 2000-193279P P 20000330
US 2000-724492 A2 20010330
US 2001-964276 A2 20010330
US 2001-964276 A2 20010926
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OTHER SOURCE(S):

MARPAT 138:39182

$$Z \xrightarrow{Y} \xrightarrow{M_{\nu}} \xrightarrow{Y} \xrightarrow{Ar} \xrightarrow{Y} \xrightarrow{M_{1}} \xrightarrow{N} \xrightarrow{M_{\nu}} \xrightarrow{Y} \xrightarrow{Y} \xrightarrow{Y} \xrightarrow{Y} \xrightarrow{Y} \xrightarrow{Cy'} \xrightarrow{T}$$

Title compds. I [Ar = (hetero)aryl; X = CO, CS, SO2, SO, CH2; Y = absent; AB Z = absent, aryl, carbocyclyl, heterocyclyl, etc.; M = (un)substituted methylene, etc.; Cy = aryl, heterocyclyl, heteroaryl, cycloalkyl; Cy' = 3-chlorobenzo[b]thiophen-2-yl, 3-fluorobenzo[b]thiophen-2-yl, etc.] are prepared For instance, N-(4-aminocyclohexyl)-N-methylcarbamic acid tert-Bu ester (preparation given) was alkylated with 5'-formyl-2'-methoxy-[1,1'-Biphenyl]-4-carbonitrile (MeO3CH, NaBH(OAc)3) and the resulting adduct acylated with 3-chlorobenzo[b]thiophene-2-carbonyl chloride and finally deprotected to give II, which was isolated as the hydrochloride. Methods and reagents are provided for modulating proliferation or differentiation in a cell or tissue, comprising contacting the cell with a hedgehog agonist. I are used to correct or inhibit an aberrant or unwanted growth state, e.g., by antagonizing a normal ptc pathway or agonizing smoothened or hedgehog activity. 364590-54-5P, Benzo[b]thiophene-2-carboxamide, IT

364590-54-5P, Benzo[b]thiophene-2-carboxamide,
3-chloro-N-[(4'-cyano-6-methoxy[1,1'-biphenyl]-3-yl)methyl]-N-[4(methylamino)cyclohexyl]RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(hedgehog small organic mol. agonists as regulators of

cell proliferation and differentiation)

RN 364590-54-5 HCAPLUS

Benzo[b]thiophene-2-carboxamide, 3-chloro-N-[(4'-cyano-6-methoxy[1,1'biphenyl]-3-yl)methyl]-N-[4-(methylamino)cyclohexyl]- (9CI) (CA INDEX

L20 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2001:747593 HCAPLUS

135:283224 DOCUMENT NUMBER:

TITLE:

CN

Small organic molecule hedgehog

agonists as regulators of cell proliferation

and differentiation

INVENTOR(S):

Baxter, Anthony David; Boyd, Edward Andrew; Guicherit, Oivin M.; Porter, Jeffrey; Price, Stephen; Rubin, Lee

PATENT ASSIGNEE(S):

SOURCE:

Curis, Inc., USA

PCT Int. Appl., 246 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

Patent

English

FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

PA'	ATENT NO.			KII	ND DATE			A	PPLI	CATI	ο.	DATE						
	2001074344 2001074344							WO 2001-US10296 20010330										
WO	W: AE, AG,						AZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,		
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														LK,			—	
		LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	ΝZ,	PL,	PT,	RO,	RU,	
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		DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	ΙT,	LU,	MC,	NL,	PT,	SE,	TR,	BF,	
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US	6613798						US 2000-724955 20001128											
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EP	1272168																	
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US 2000-724955 A 20001128 WO 2001-US10296 W 20010330 US 2001-964276 A2 20010926

OTHER SOURCE(S):

MARPAT 135:283224

GI

Methods and reagents are provided for modulating proliferation or differentiation in a cell or tissue, comprising contacting the cell with a hedgehog agonist. In certain embodiments, the methods and reagents may be employed to correct or inhibit an aberrant or unwanted growth state, e.g., by antagonizing a normal ptc pathway or agonizing smoothened or hedgehog activity. Preparation of compds. (e.g. I) is described.

Ι

IT 364590-54-5

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(hedgehog small organic mol. agonists as regulators of cell proliferation and differentiation)

RN 364590-54-5 HCAPLUS

CN Benzo[b]thiophene-2-carboxamide, 3-chloro-N-[(4'-cyano-6-methoxy[1,1'-biphenyl]-3-yl)methyl]-N-[4-(methylamino)cyclohexyl]- (9CI) (CA INDEX NAME)

Yaen 09/883848

24/03/2004

## => d ibib abs hitstr ind 16 1-1

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:

2001:935644 HCAPLUS

DOCUMENT NUMBER:

136:64122

TITLE:

Hedgehog protein as angiogenesis-modulator and

therapeutic uses thereof

INVENTOR(S):

Ling, Leona E.; Sanicola-Nadel,

Michele

PATENT ASSIGNEE(S):

Biogen, Inc., USA

SOURCE:

PCT Int. Appl., 269 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT NO.					KIND DATE					PPLI(		ο.	DATE						
	WO	O 2001098344				A2 20011227							35	20010618						
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		W:													BZ,					
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															PT,		TR,	BF,		
			ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG				
	US	6552	016	B1 20030422				U	S 20	00-6	8	20001013								
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	EΡ	1294																		
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			IE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR								
	JР	2004			T2 20040115								20010618							
	US	2004	0239	49	A1 20040205			US 2003-407551						20030404						
PRTO	PRIORITY APPLN. INFO.:													20000616						
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	US 2000-196543P P 20000411												0411							
										US 2	000-	2405	36P	P	2000	1013				
										US 2000-688018 A3					20001013					
											WO 2001-US19435 W 200106									
										_										

OTHER SOURCE(S): MARPAT 136:64122

The invention provides protein and cDNA sequences of sonic, indian, desert and tiggie-winkle hedgehog proteins from mouse chicken zebrafish human Drosophila. The present invention relates to the use of hedgehog protein, DNA, or other hedgehog therapeutic as an agent to induce the growth of new blood vessels, angiogenesis, arteriogenesis or vascular growth in adult tissues where the induction of angiogenesis has therapeutic value. The present invention also relates to the use of inhibitors of hedgehog protein or signaling to prevent angiogenesis contributing to pathol. conditions such as neoplasia (tumors and gliomas), diabetic retinopathy, rheumatoid arthritis, osteoarthritis, macular degeneration, psoriasis, ulcerative colitis, Chrohn's disease, and inflammation. Hedgehog agonists and antagonists can be used to regulate angiogenesis, and have utility in treating tissue repair and cancer, and to prevent angiogenesis driven pathologies.

IT 383440-21-9 383440-22-0, Hedgehog protein, desert (mouse) 383440-23-1, Hedgehog protein, indian (mouse)

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383440-24-2, Hedgehog protein, sonic (mouse) 383440-25-3
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    protein, sonic (human) 383440-27-5, Hedgehog protein, indian
     (human) 383440-28-6, Hedgehog protein, desert (human)
     383440-29-7 383440-31-1, Hedgehog protein (Drosophila)
     384381-47-9, Hedgehog protein (synthetic)
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (amino acid sequence; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
RN
     383440-21-9 HCAPLUS
    Hedgehog protein, sonic (Gallus domesticus) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-22-0 HCAPLUS
RN
     Hedgehog protein, desert (mouse) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-23-1 HCAPLUS
RN
     Hedgehog protein, indian (mouse) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-24-2 HCAPLUS
RN
     Hedgehog protein, sonic (mouse) (9CI)
                                           (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-25-3 HCAPLUS
RN
     Hedgehog protein, sonic (Danio rerio) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     383440-26-4 HCAPLUS
     Hedgehog protein, sonic (human) (9CI)
                                           (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-27-5 HCAPLUS
RN
     Hedgehog protein, indian (human) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-28-6 HCAPLUS
RN
     Hedgehog protein, desert (human) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     383440-29-7 HCAPLUS
     Hedgehog protein, tiggie-winkle (Danio rerio) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-31-1 HCAPLUS
RN
     Hedgehog protein (Drosophila) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     384381-47-9 HCAPLUS
RN
     Hedgehog protein (synthetic) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     106096-93-9, FGF2 127464-60-2, Vascular endothelial
     growth factor 186270-49-5, Angiopoietin 1 194368-66-6,
     Angiopoietin 2
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (hedgehog agonists; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
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Yaen 09/883848 106096-93-9 HCAPLUS RN Fibroblast growth factor, basic (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 127464-60-2 HCAPLUS RN Vascular endothelial growth factor (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 186270-49-5 HCAPLUS RN Angiopoietin 1 (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 194368-66-6 HCAPLUS RNAngiopoietin 2 (9CI) (CA INDEX NAME) CN\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 9001-78-9, Alkaline phosphatase 14265-44-2, Phosphate, biological studies RL: BSU (Biological study, unclassified); BIOL (Biological study) (hedgehog protein as angiogenesis-modulator and therapeutic uses thereof) 9001-78-9 HCAPLUS RN Phosphatase, alkaline (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 14265-44-2 HCAPLUS RN Phosphate (8CI, 9CI) (CA INDEX NAME) CN  $\cap$ 0-0-

383440-12-8 383440-13-9, DNA (mouse desert hedgehog protein cDNA) 383440-14-0, DNA (mouse indian hedgehog protein cDNA) 383440-15-1, DNA (mouse sonic hedgehog protein cDNA) 383440-16-2 383440-17-3, DNA (human sonic hedgehog protein cDNA) 383440-18-4, DNA (human indian hedgehog protein cDNA) 383440-19-5, DNA (human desert hedgehog protein cDNA) 383440-20-8 383440-30-0, DNA (Drosophila hedgehog protein cDNA) RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (nucleotide sequence; hedgehog protein as angiogenesis-modulator and therapeutic uses thereof) 383440-12-8 HCAPLUS RN DNA (Gallus domesticus sonic hedgehog protein cDNA) (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 383440-13-9 HCAPLUS RN DNA (mouse desert hedgehog protein cDNA) (9CI) (CA INDEX NAME) CN \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\* 383440-14-0 HCAPLUS RN DNA (mouse indian hedgehog protein cDNA) (9CI) CN (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

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383440-15-1 HCAPLUS
RN
     DNA (mouse sonic hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-16-2 HCAPLUS
     DNA (Danio rerio sonic hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-17-3 HCAPLUS
     DNA (human sonic hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-18-4 HCAPLUS
     DNA (human indian hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-19-5 HCAPLUS
RN
     DNA (human desert hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-20-8 HCAPLUS
RN
     DNA (Danio rerio tiggie-winkle hedgehog protein cDNA) (9CI) (CA INDEX
CN
     NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383440-30-0 HCAPLUS
     DNA (Drosophila hedgehog protein cDNA) (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383451-66-9 383451-67-0 383451-68-1
     383451-69-2 383451-70-5 383451-71-6
     383451-72-7 383451-73-8 383451-74-9
     383451-75-0 383451-76-1 383451-77-2
     383451-78-3 383451-79-4 383451-80-7
     383451-81-8 383451-82-9 383451-83-0
     383451-84-1 383451-85-2 383451-86-3
     383453-23-4 383453-24-5 383453-25-6
     RL: PRP (Properties)
        (unclaimed nucleotide sequence; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
RN
     383451-66-9 HCAPLUS
     35: PN: WO0198344 SEQID: 27 unclaimed DNA (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383451-67-0 HCAPLUS
RN
     36: PN: WOO198344 SEQID: 28 unclaimed DNA (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     383451-68-1 HCAPLUS
     37: PN: WO0198344 SEQID: 29 unclaimed DNA (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383451-69-2 HCAPLUS
RN
     38: PN: WOO198344 SEQID: 30 unclaimed DNA (9CI) (CA INDEX NAME)
CN
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     383451-70-5 HCAPLUS
RN
     39: PN: WOO198344 SEQID: 31 unclaimed DNA (9CI) (CA INDEX NAME)
CN
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\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

- RN 383451-71-6 HCAPLUS
- CN 40: PN: WO0198344 SEQID: 32 unclaimed DNA (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-72-7 HCAPLUS
  - CN 41: PN: WO0198344 SEQID: 33 unclaimed DNA (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-73-8 HCAPLUS
  - CN 42: PN: WO0198344 SEQID: 34 unclaimed DNA (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-74-9 HCAPLUS
  - CN 43: PN: WO0198344 SEQID: 35 unclaimed DNA (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-75-0 HCAPLUS
  - CN DNA, d(T-C-G-A-G-A-A-A-A-G-A-T-G-C-G-G-A-C-C-G-G-G-C-A-G-G-G-G-T) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-76-1 HCAPLUS
  - CN DNA, d(C-G-A-A-C-C-C-C-C-C-C-G-G-T-C-C-G-C-A-T-C-T-T-T-C) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-77-2 HCAPLUS
  - CN DNA, d(T-C-A-G-G-A-T-G-C-A-T-T-T-G-A-C-A-G-T-G-A-C-T-G-G) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-78-3 HCAPLUS
  - CN DNA, d(A-C-T-C-G-A-G-T-C-G-G-A-G-G-A-A-T-C-A-G-A-C-C-C) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-79-4 HCAPLUS
  - CN DNA, d(C-G-A-A-G-T-G-G-T-G-A-A-G-T-T-C-A-T-G-G-A-T-G) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-80-7 HCAPLUS
  - CN DNA, d(T-T-C-T-G-T-A-T-C-A-G-T-C-T-T-T-C-C-T-G-G-T-G-A-G) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-81-8 HCAPLUS
  - CN DNA, d(T-A-C-A-A-C-T-T-C-A-A-G-C-A-G-A-G-A-G) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-82-9 HCAPLUS
  - CN DNA, d(C-A-G-C-T-C-T-T-A-G-C-A-G-A-C-A-T-T-G-G) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-83-0 HCAPLUS
  - CN DNA, d(C-A-A-C-A-C-A-A-A-C-G-C-T-C-T-G-C-A-G-A-G-A) (9CI) (CA INDEX NAME)
  - \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
  - RN 383451-84-1 HCAPLUS

- CN DNA, d(C-T-C-C-A-G-T-T-G-C-T-G-C-T-T-C-T-G-A-A-G-G-A-C) (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-85-2 HCAPLUS
- CN DNA, d(A-G-C-G-A-C-G-T-G-A-G-G-A-T-G-G-C-A-G-C-G-T-T) (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-86-3 HCAPLUS
- CN DNA, d(A-T-T-T-C-C-T-G-G-T-T-G-G-C-T-G-A-T-G-C-T-G-C-T-T) (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383453-23-4 HCAPLUS
- CN 46: PN: WOO198344 PAGE: 132/SEQID: 21 unclaimed DNA (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383453-24-5 HCAPLUS
- CN 47: PN: WOO198344 PAGE: 133/SEQID: 22 unclaimed DNA (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383453-25-6 HCAPLUS
- CN 48: PN: WOO198344 PAGE: 205-211/SEQID: 36 unclaimed DNA (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- IT 383451-61-4 383451-62-5 383451-63-6

383451-64-7 383451-65-8

RL: PRP (Properties)

(unclaimed protein sequence; hedgehog protein as angiogenesis-modulator and therapeutic uses thereof)

- RN 383451-61-4 HCAPLUS
- CN 21: PN: WOO198344 SEQID: 21 unclaimed protein (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-62-5 HCAPLUS
- CN 22: PN: WOO198344 SEQID: 22 unclaimed protein (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-63-6 HCAPLUS
- CN 49: PN: WOO198344 SEQID: 23 unclaimed protein (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-64-7 HCAPLUS
- CN 50: PN: WOO198344 SEQID: 24 unclaimed protein (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- RN 383451-65-8 HCAPLUS
- CN 51: PN: WOO198344 SEQID: 25 unclaimed protein (9CI) (CA INDEX NAME)
- \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
- IC ICM C07K014-475
- CC 1-8 (Pharmacology)
  - Section cross-reference(s): 3, 13
- ST angiogenesis modulating hedgehog agonist antagonist sequence; mouse chicken zebrafish human Drosophila hedgehog protein sequence; sonic desert indian tiggie winkle hedgehog protein cDNA sequence
- IT Animal cell line
  - (C3H/10T1/2; hedgehog protein as angiogenesis-modulator and therapeutic

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uses thereof)
ΙT
     Intestine, disease
        (Crohn's, treatment of; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Hedgehog protein
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (agonist or antagonist; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Cardiovascular agents
        (angiogenesis; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Proteins
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (desert hedgehog; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
TΤ
     Protein motifs
        (extracellular domain of hedgehog protein; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
IΤ
     Viral vectors
        (for expression hedgehog agonist; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
IT
     Antibodies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (fusion products, homolog; hedgehog protein as angiogenesis-modulator
        and therapeutic uses thereof)
IT
     Hepatocyte growth factor
     Monocyte chemoattractant protein-1
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (hedgehog agonists; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Acetyl group
     Antiarthritics
     Antirheumatic agents
     Antitumor agents
     Chicken (Gallus domesticus)
     Danio rerio
     Drosophila
     Gene therapy
     Human
     Mouse
     Protein sequences
     cDNA sequences
        (hedgehog protein as angiogenesis-modulator and therapeutic uses
IT
     Carbohydrates, biological studies
     Lipids, biological studies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (hedgehog protein as angiogenesis-modulator and therapeutic uses
        thereof)
IT
     Angiogenic factors
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (hedgehog; hedgehog protein as angiogenesis-modulator and therapeutic
        uses thereof)
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Antibodies
IT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (homolog; hedgehog protein as angiogenesis-modulator and therapeutic
        uses thereof)
IT
    Antibodies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (humanized, homolog; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Proteins
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (indian hedgehog; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
ΙT
     Eye, disease
        (macula, degeneration, treatment of; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
ΙT
     Angiogenesis
        (modulating; hedgehog protein as angiogenesis-modulator and therapeutic
        uses thereof)
ΙT
    Glaucoma (disease)
        (neovascular, treatment of; hedgehog protein as angiogenesis-modulator
        and therapeutic uses thereof)
IT
     Angiogenesis
        (neovascularization, hedgehog inducing; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
     Polymers, biological studies
IT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (polyalkylene glycol; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
     Eye, disease
ΙT
        (retinopathy, treatment of; hedgehog protein as angiogenesis-modulator
        and therapeutic uses thereof)
ΙT
     Hedgehog protein
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (sonic; hedgehog protein as angiogenesis-modulator and therapeutic uses
        thereof)
IT
     Proteins
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (tiggie-winkle hedgehog; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
     Keloid
ΤТ
     Psoriasis
        (treatment of; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     Intestine, disease
        (ulcerative colitis, treatment of; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
     383440-21-9 383440-22-0, Hedgehog protein, desert
IT
     (mouse) 383440-23-1, Hedgehog protein, indian (mouse)
     383440-24-2, Hedgehog protein, sonic (mouse) 383440-25-3
     , Hedgehog protein, sonic (Danio rerio) 383440-26-4, Hedgehog
     protein, sonic (human) 383440-27-5, Hedgehog protein, indian
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(human) 383440-28-6, Hedgehog protein, desert (human) 383440-29-7 383440-31-1, Hedgehog protein (Drosophila)

384381-47-9, Hedgehog protein (synthetic)

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RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (amino acid sequence; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
IT
     106096-93-9, FGF2 127464-60-2, Vascular endothelial
     growth factor 186270-49-5, Angiopoietin 1 194368-66-6,
     Angiopoietin 2
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (hedgehog agonists; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
     9001-78-9, Alkaline phosphatase 14265-44-2, Phosphate,
     biological studies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (hedgehog protein as angiogenesis-modulator and therapeutic uses
        thereof)
IT
     383440-12-8 383440-13-9, DNA (mouse desert hedgehog
    protein cDNA) 383440-14-0, DNA (mouse indian hedgehog protein
     cDNA) 383440-15-1, DNA (mouse sonic hedgehog protein cDNA)
     383440-16-2 383440-17-3, DNA (human sonic hedgehog
    protein cDNA) 383440-18-4, DNA (human indian hedgehog protein
     cDNA) 383440-19-5, DNA (human desert hedgehog protein cDNA)
    383440-20-8 383440-30-0, DNA (Drosophila hedgehog
    protein cDNA)
    RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (nucleotide sequence; hedgehog protein as angiogenesis-modulator and
        therapeutic uses thereof)
    383451-66-9 383451-67-0 383451-68-1
TT
    383451-69-2 383451-70-5 383451-71-6
    383451-72-7 383451-73-8 383451-74-9
    383451-75-0 383451-76-1 383451-77-2
    383451-78-3 383451-79-4 383451-80-7
    383451-81-8 383451-82-9 383451-83-0
    383451-84-1 383451-85-2 383451-86-3
    383453-23-4 383453-24-5 383453-25-6
    RL: PRP (Properties)
        (unclaimed nucleotide sequence; hedgehog protein as
        angiogenesis-modulator and therapeutic uses thereof)
    383451-61-4 383451-62-5 383451-63-6
TT
    383451-64-7 383451-65-8
    RL: PRP (Properties)
        (unclaimed protein sequence; hedgehog protein as angiogenesis-modulator
       .and therapeutic uses thereof)
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